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**REMARKS**

Claims 1- 21 remain pending in this application.

**Rejection of Claims 1-3, 8-10 and 15-17 under 35 U.S.C. 102(e)**

Claims 1-3, 8-10 and 15-17 are rejected under 35 U.S.C. 102(e) as being unpatentable over Banouvong et al. (US 6,407,462).

The present claimed invention provides an integrated circuit die for a flip chip. The integrated circuit includes a die and a plurality of die bond pads situated on the die. The die bond pads are situated in rows with every other row having a bond pad spacing different than that of a bond pad spacing of an adjacent row.

“The size of the die is the primary driver of cost for an integrated circuit... Ways to reduce the amount of the die spent on these power busses could help reduce the size, and therefore the cost, of the die” (Page 2, lines 14-18). Therefore, the present claimed invention provides “an integrated circuit die for a flip chip having circular die bond pads” (Page 2, lines 31-32) and “takes into account the routing capabilities of the PCB and spaces every other row of bond pads such that two lines can be routed from every other row of bond pads and between the outer row of bond pads thereto. This provides a staggered spacing for the bond pads” (Page 4, lines 26-29).

Banouvong et al. describe an integrated circuit die having a first plurality of solder bumps on the active surface in the form of a grid. “Each of the solder bumps in every other row...is separated from an adjacent solder bump in that row by a distance 2D such that the each of these solder bumps is disposed along a first group of the plurality of columns. Each of the solder bumps in the remaining rows...is separated from an adjacent solder bump in that row by the distance 2D such that the solder bumps in the remaining rows are disposed along a second group of the plurality of columns” (Col. 3, lines 35-43). “A distance A separates adjacent rows within [the]...first plurality

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of rows and a distance B, which is greater than A, separates adjacent rows...within a second plurality of rows" (Col. 3, lines 47-51).

The Office Action asserts that Banouvong et al. disclose adjacent bond pad rows, wherein the solder bumps on adjacent rows have different spacing. Banouvong et al., as displayed above, disclose a first plurality of adjacent rows A and a second plurality of adjacent rows B. However, the solder bumps within each plurality of adjacent rows are offset and **identically distanced** (e.g. 2D within the first plurality of adjacent rows). Additionally, the spacing between each of the rows of the first plurality of rows A are identical and each of the rows of the second plurality of rows B are identical. This is unlike the present claimed invention which "takes into account the routing capabilities of the PCB and spaces every other row of bond pads such that two lines can be route from the every other row of bond pads and between the outer row of bond pads relative thereto" (Page 4, lines 26-29). Thus, while Banouvong et al. describe a difference in the spacing between groups of rows, Banouvong et al. do not describe **different** bond spacing in adjacent rows as in the present claimed invention. This difference in spacing allows for lines can be routed through every other row to reach an adjacent row. Therefore, Banouvong et al. neither disclose nor suggest "a plurality of die bond pads situated on said die wherein said die bond pads are situated in rows with every other row having a bond pad spacing different than that of a bond pad spacing of an adjacent row" as recited in claims 1, 8 and 15 of the present claimed invention.

As claims 2, 3, 9, 10, 16 and 17 are each dependant on one of independent claims 1, 8 and 15, it is respectfully submitted that they are allowable for the same reasons as discussed above regarding claims 1, 8 and 15. In view of the above remarks it is respectfully submitted that claims 1-3, 8-10 and 15-17 are allowable.

In view of the above remarks and amendments to the claims it is respectfully submitted that there is no 35 USC 112 compliant enabling disclosure in Banouvong et al. showing the above discussed features. It is thus further respectfully submitted that

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claims 1-3, 8-10 and 15-17 are not anticipated by Banouvong et al. It is thus, further respectfully submitted that this rejection is satisfied and should be withdrawn.

**Rejection of Claims 6-7, 13-14, 20 and 21 under 35 U.S.C. 103(a)**

Claims 6-7, 13-14, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Banouvong et al. in view of Mangold et al. (US 5,759,910).

Mangold et al. describe a "die bumping process which will allow fine pitch bump configurations to be provided, thereby reducing the complexity and cost of flip chip integrated circuits having a large number of input and output die pads" (Col. 1, lines 32-35).

The Office Action asserts that Mangold et al. disclose circular die bond pads. However, Mangold et al. disclose die pads wherein "the die pads 104 are arranged in two rows...The minimum center-to-center die pad spacing...is defined as the minimum center-to-center spacing 106 between inner and outer rows of die pads and the spacing 108 between adjacent die pads 104 in the same row" (Col. 1, line 62-Col. 2, line 5). Unlike the present claimed invention, Mangold et al. are not concerned with providing **different spacing** between die pads of different adjacent rows. Mangold et al. are concerned with a minimum center-to-center spacing distance 106. This spacing difference between die pads is the **same for each row** (see Figure 1). Therefore, Mangold et al., similarly to Banouvong et al., neither disclose nor suggest "a plurality of die bond pads situated on said die wherein said die bond pads are situated in rows with every other row having a bond pad spacing different than that of a bond pad spacing of an adjacent row" as recited in claims 1, 8 and 15 of the present claimed invention.

The Office Action further asserts that a combination of the systems of Banouvong et al. and Mangold et al. would disclose the principles of the present claimed invention. However, even if one were to combine the systems of Banouvong et al. and Mangold et al., the combined system, similarly to the individual systems, would

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neither disclose nor suggest "a plurality of die bond pads situated on said die wherein said die bond pads are situated in rows with every other row having a bond pad spacing different than that of a bond pad spacing of an adjacent row" as recited in claims 1, 8 and 15 of the present claimed invention.

As claims 6-7, 13-14, 20 and 21 are dependant on independent claims 1, 8 and 15, respectively, it is respectfully submitted that they are allowable for the same reasons as discussed above in regards to claims 1, 8 and 15. In view of the above remarks it is respectfully submitted that claims 6-7, 13-14, 20 and 21 are also allowable.

In view of the above remarks and amendments to the claims it is respectfully submitted that there is no 35 USC 112 compliant enabling disclosure in Banouvong et al. and Mangold et al., when taken alone or in combination, showing the above discussed features. It is thus further respectfully submitted that claims 6-7, 13-14, 20 and 21 are not anticipated by Banouvong et al. and Mangold et al., when taken alone or in combination. It is thus, further respectfully submitted that this rejection is satisfied and should be withdrawn.

The applicant respectfully submits, in view of the above arguments, that the all arguments made by the Examiner have been addressed and this rejection should be withdrawn. Therefore, the applicant respectfully submits that the present claimed invention is patentable.

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No fee is believed due. However, if a fee is due, please charge the additional fee  
to Deposit Account 07-0832.

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